

Quiz 5

1. Consider the following exponential functions.

$$f_1(x) = \left(\frac{1}{4}\right)^x, f_2(x) = \left(\frac{1}{2}\right)^x, f_3(x) = \left(\frac{3}{4}\right)^x, f_4(x) = \left(\frac{5}{4}\right)^x, f_5(x) = \left(\frac{3}{2}\right)^x, f_6(x) = \left(\frac{7}{4}\right)^x$$

Which growth function has the steepest graph?

Which growth function has the shallowest graph?

Which decay function has the steepest graph?

Which decay function has the shallowest graph?

2. Chemical X decays by 60% every 5 days.

a. Model the decay of a 50mg sample of Chemical X as a function $f(T)$, where T is 5-day periods.

b. Use the function from part (a) to construct a new function $f(t)$, where t is 1-day periods.

3. Find an exponential function through the points (2, 100) and (12, 5).